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CLAIMS:

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1. A method of transporting packet voice and data traffic over a communication path, the method comprising generating a first packet stream carrying the voice traffic, generating a second packet stream carrying the data traffic, segmenting said first and second packet streams into respective first and second ATM cell streams, and multiplexing said first and second ATM cell streams together for transport over said path.
5. 2. A method as claimed in claim 1, wherein said communication path comprises a telephone subscriber loop.
10. 3. A method as claimed in claim 2, wherein said subscriber loop carries an asymmetric digital subscriber line (ADSL) service.
15. 4. A method as claimed in claim 3, wherein said first and second cell streams are adaptation layer five (AAL5) cell streams.
20. 5. A method as claimed in claim 4, wherein said first and second cell streams are re-assembled into respective voice and data packets for transport over an IP network.
25. 6. A method as claimed in claim 5, wherein said voice packets are routed within the IP network to one or more gateways providing access to a PSTN.
7. A method as claimed in claim 6, wherein each said voice packet is provided with a compressed header.
30. 8. A method as claimed in claim 7, wherein compressed header packets directed at a common gateway are embedded in an IP packet having a full header.
9. A method as claimed in claim 7, wherein compressed header packets directed at a common gateway are embedded in a single ATM virtual circuit.

10. A method as claimed in claim 4, wherein said first and second ATM cell streams are transported via an ATM network.

5 11. A method of transporting first and second packet streams having respective first and second priority levels over a communications path, the method comprising segmenting said first and second packet streams into respective first and second ATM cell streams, and multiplexing said first and second ATM cell streams together for transport over said path.

10 12. An arrangement for transporting a first packet stream comprising digitally encoded voice traffic and a second packet stream comprising data traffic over a communication path, the arrangement comprising means for segmenting said first and second packet streams into respective first and second ATM cell streams, and multiplexing means for multiplexing said first and second ATM cell streams together for transport over said path.

15 13. An arrangement as claimed in claim 12, wherein said communications path comprises a telephone subscriber loop.

20 14. An arrangement as claimed in claim 13, wherein said first and second ATM cell streams are AAL5 cell streams.

25 15. A subscriber station for providing digital communication with an access multiplexer over a subscriber loop, the subscriber station incorporating means for generating a first packet stream comprising digitally encoded voice traffic and a second packet stream comprising data traffic, means for segmenting said first and second packet streams into respective first and second ATM cell streams, and multiplexing means for multiplexing said first and second ATM cell streams

30 together for transport to the access multiplexer over said subscriber loop.

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